



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,246	05/03/2001	Akira Ikushima	ADACHI P163USP2	6256

20210 7590 03/01/2004
DAVIS & BUJOLD, P.L.L.C.
FOURTH FLOOR
500 N. COMMERCIAL STREET
MANCHESTER, NH 03101-1151

EXAMINER

HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
----------	--------------

1731

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

HW

Office Action Summary	Application No. 09/848,246	Applicant(s) IKUSHIMA ET AL.	
	Examiner John Hoffmann	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-24 is/are pending in the application.
- 4a) Of the above claim(s) 9-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7, 8 and 12-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>Dec 2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Newly submitted claims 9-11 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Originally presented claim 1 was directed to the species where the residual heat removes the defects. New claim 9 is directed to a mutually exclusive specie where added heat removes the defects. (claim 5 was generic to both species). If the residual heat removes the defects, then the added heat cannot remove the defects.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 9-11 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

I

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-8 and 12-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7, line 6: there is no antecedent basis for "the multiple structural defects from the spinning step". Line 4 only recites a purpose of creating defects, it does not

require that defects are actually created. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Whether or not an artisan has a purpose to create defects, is immaterial - unless there is a manipulative difference. However, even if line 4 somehow actually recited the creation of defects, such would only provide for defects "from the irradiating step" and not "from the spinning step" as required by the claim. Similarly, there is no antecedent basis for "the plurality of structural defects" of claim 12, line 9.

Claim 8: it is unclear if the irradiating of line 3 is a new irradiating step, or if it further limits the irradiating of claim 7. Claims 13-18 and 24 have the same problem.

From MPEP 2173.05(h):

Alternative expressions are permitted if they present no uncertainty or ambiguity with respect to the question of scope or clarity of the claims. One acceptable form of alternative expression, which is commonly referred to as a Markush group, recites members as being "selected from the group consisting of A, B and C." See *Ex parte Markush*, 1925 C.D. 126 (Comm'r Pat. 1925).

Presently, claim 19 has a group which is very similar to the above accepted form, but there is no indication that the group is "consisting of" the members. Therefore it is impossible for anyone to tell if applicant's group is open or closed to additional members - and thus the claim presents uncertainty or ambiguity with respect to the question of scope of the claim. If the above "acceptable form" is not desirable for Applicant, Examiner can be telephoned for other expressions.

Claims 20-22 refer to "a residual heat". It is unclear if there is in addition to "the heat created by a spinning furnace" - or if it further defines the heat.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, and 12-15m 19-2224 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiVita 4028080 in view of Boniort 5247147.

See DiVita, col 1, lines 39-50 disclose the invention as claimed, i.e. the UV exposure and the use of heat are disclosed. However, there is no disclosure of residual heat, or any defect creation. Since DiVita does what Applicant does, one would reasonably expect the same results that Applicant got. If Applicant argues that DiVita would not get the same result that Applicant achieved, the burden would be on Applicant to demonstrate why one would not expect to get the same result.

Although, DiVita has the UV treatment during the formation of the fiber, it is possible that the fiber has cooled down to room temperature (and thus contains no residual heat) . Boniort teaches that when using a process requiring a high-temperature, one can place the process close to the draw furnace - and thus use the fiber at an elevated temperature: see col. 1, lines 50-60 and col. 2, lines 51-58. It would have been obvious to do the DiVita treatment very close to the draw furnace, so as to use the elevated temperature of the fiber - so that one would not have to spend time reheating the fiber.

The "optionally" and "if necessary" limitations are not required by the claim, so such will not be further addressed in this rejection

As to the intention of: "to purposefully cause multiple structural defects": A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Presently, the intention does not result in any manipulative difference.

Claim 12: DiVita does not disclose the Si-O-Si network and angle. Since DiVita does what Applicant does, one would expect the same result. As to the insulator, See col. 3, lines 42-43.

Claims 13-15: see col. 2, line 26: 1849 angstroms = 184.9 nm.

Claim 19 has a list of 4 members. There is no indication if the list is comprising in nature, or consisting in nature. The broadest of those two interpretations is that it is open to additional members. Page 8, line 19 refers to "and the like" further indicates that Applicant does not intend to limit the claim to those specific 4 members. It is improper for the Office to give a claim a narrower interpretation than is reasonably conveyed. It is deemed that the list of the claim is open to the UV source that DiVita uses.

Claims 20-22: see col. 2, line 43 of DiVita.

Claims 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over DiVita 4028080 in view of Boniort 5247147 as applied to claim 12, and further in view of Harding 4793840.

DiVita does not disclose the diameter measuring and the velocity control. Harding discloses that it old to measure diameter and control the speed based on that measurement so as to control the diameter of the fiber. It would have been obvious to control the DiVita fiber drawing as disclosed by Harding, so as to make a fiber with a constant diameter, rather than one with a varying diameter.

Claims 8 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiVita 4028080 in view of Boniort 5247147 as applied to claim 7 and 12, and further in view of Daniylchev 5666640 and Harding 4793840.

Claim 8: requires an additional irradiating. One can divide the DiVita irradiating into as many substeps as desired. For example the first 5 seconds could be one irradiating, the next 5 seconds can be a second irradiating, etc. Col. 2, line 14 of DiVita disclose 2400 angstroms (i.e. 240 nm). DiVita does not disclose the intensity. However DiVita discloses using both high pressure and low pressure mercury lamps (see claims 6 and 8). Applicant discloses at page 8, lines 17-20 refers to excimer lamps, deuterium lamps, "and the like". From Daniylchev, col. 3, lines 31-35, low pressure mercury lamps are interchangeable with excimer lamps and deuterium lamps.

One of ordinary skill would thus interpret Applicant's "and the like" to encompass mercury vapor lamps. Therefore it is reasonable to expect that DiVita's lamps have about the same intensity as Applicant's. It is noted that applicant's scope is very broad: it covers 5 orders of magnitude. The Office does not have the resources to determine the intensity of the lamps.

It is further noted that the intensity of light generally varies inversely with the square of the distance (e.g. sunlight on the earth is much more intense than sunlight on Pluto.) Thus the DiVita intensity would vary depending upon where the intensity is measured. The claim refers to 'an intensity' thus the claim is not limited to any particular intensity that occurs in the process.

Alternatively and/or additionally: The intensity of the light source is an obvious matter of design choice. One small intense light source would be equivalent to a large less intense light source. DiVita is concerned with the generation of Ozone. If one has a slow moving gas rate, one would not need a very intense source. But with fast moving gas, one has to replace the ozone at a faster rate - and thus require more energy to be supplied and thus a higher UV intensity. Further more, multiple low intensity light sources could be used to create the same amount of ozone as one high-intensity UV lamp. Compare DiVita's Example 1 single light source, with the multiple tubes of example 2. It is simply a matter of how the artisan wants to implement the DiVita Ozone creation - taking into consideration what sort of lamps are available, and how much space one has available and other such routine considerations that won't effect the basic teachings of the prior art. .

DiVita does not disclose the diameter measuring and the velocity control. Harding discloses that it old to measure diameter and control the speed based on that measurement so as to control the diameter of the fiber. It would have been obvious to control the DiVita fiber drawing as disclosed by Harding, so as to make a fiber with a constant diameter, rather than one with a varying diameter.

Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiVita 4028080 in view of Boniort 5247147 as applied to claim 12, and further in view of Daniylchev 5666640

See above how Daniylchev is utilized in to determine that the broad range of intensities does not make the claims allowable.

Response to Arguments

Applicant's arguments filed 9 Feb 2004 have been fully considered but they are not persuasive.

In response to applicant's argument that DiVita does not disclose the creation of defects, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for

Art Unit: 1731

patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). As indicated in the rejection, since Applicant and DiVita do the same thing, both would yield the same results.

It was further argued that the prior art does not teach changing the bond angle. Again, since DiVita and Applicant do the same thing, the same result would result.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

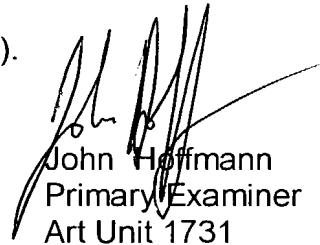
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

Art Unit: 1731

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John Hoffmann
Primary Examiner
Art Unit 1731

2-19-04

jmh